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UTILIZING QUIZZIZ IN IMPROVING ENGAGEMENT AND ACADEMIC PERFORMANCE IN MATHEMATICS OF GRADE 6 PUPILS IN WAWA ELEMENTARY SCHOOL

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ABSTRACT

The purpose of this study is to improve engagement and academic performance of Grade 6 pupils in Mathematics by using Quizziz, an online educational application that makes use of gamification. The researcher made use of quasi-experimental research design. The participants in this study are selected grade 6 pupils which were divided in two groups, the experimental and the control group, which were chosen based on their grades in Mathematics for the first grading. Their weekly tests scores and posttest and pretest scores were recorded and were statistically analyzed using mean and paired and unpaired t-test to identify any statistical significance. The experimental group undergone online synchronous instruction with integration of Quizziz generated learning activities. While the control group received online synchronous instruction only. The result of the weekly test mean scores, did not show significant difference. This may be identified due to uncontrollable factors such as unstable internet connection and gadget specifications of the pupils. However, after five weeks of continued implementation, and as shown in the t-test scores of the posttest scores of the control and experimental group and in the pretest and posttest of the experimental group, there was a significant increase on the academic performance of the pupils with the use of Quizziz. In addition to this, maximum participation of the pupils in accomplishing the learning tasks was enhanced since they can make use of the app in their own pace. The researcher therefore concludes that the use of online educational gaming application such as Quizziz promotes participation and engagement thereby improving the academic performance of the pupils.

Key Concepts: Academic Performance, Game-based learning, Use of Quizziz

INTRODUCTION

An abrupt change in the delivery of instruction happened due to the COVID-19 pandemic. The usual face-to-face classes between teacher and pupils in the four corners of the classroom was replaced by remote learning, where the teaching and learning process happens through modular means or using different online platforms while pupils and teachers stay at the comfort of their homes. This sudden shift of mode delivery required lots of adjustments for both the teachers and pupils.

The dilemma cited above adds up to the existing challenge to Math teachers for it is already an accepted fact that engaging pupils in Mathematics lessons can be very tough since most of them dislike or fear the subject. This attitude towards the subject caters to pupils' poor performance due to lack of motivation. Considering this, teachers are encouraged to come up with innovations that promote learners' involvement and engagement in class activities that may lead to improve academic performance of the pupils.

These predicaments are reflected on the results of the pre-assessment test results in Mathematics of grade 6 pupils of Wawa Elementary School for this school year. The results show a recorded mastery level of 42.97 percent which is far below the target of 75 percent considering that some of the covered topics were already discussed in their fifth grade. This prompted the researcher to conduct a study using a game-based learning platform as intervention to help improve pupils' engagement and academic performance in Mathematics.

Based on the study conducted by Fang Zhao (2019) entitled "Using Quizziz to Integrate Fun Multiplayer Activity in the Accounting Classroom", the use of the online gaming app provides positive impact on the students learning experience. The students that are exposed to the use of the app displays enjoyment and satisfaction thus catering to improved performance as shown in the teacher's evaluation report.

Considering the results of the study mentioned above, the teacher researcher will make use of Quizziz, an online educational application that makes use of gamification (MacNamara & Murphy, 2017), to create learning activities in Mathematics to be accomplished by grade 6 pupils with the hope of addressing the identified concerns.

STATEMENT OF THE PROBLEM

This research aimed to improve the academic performance of the grade 6 pupils of Wawa Elementary School in Mathematics.

This study sought to answer the following questions:

1. Is there a significant difference between the academic performance of Grade 6 pupils as indicated by their weekly test, and pretest and posttest mean scores while taught using:
 - a. Online teaching approach with integration of Quizziz; and
 - b. Online teaching approach only?
2. How can the use of Quizziz help improve engagement and academic performance of selected Grade 6 pupils in Mathematics?

METHODOLOGY

The researcher made use of quasi-experimental design was in this study which compared means of two groups. The respondents for this study are 15 pupils each group who were selected and matched based on their Mathematics grade for the first quarter and was then randomly assigned as experimental and the control groups. The study was implemented from the third week of November until the third week of December. Paired and unpaired T-test was used to analyze the data gathered.

RESULTS AND DISCUSSIONS

	Weekly Test		Pretest		Posttest		Experimental Group	
	Control	Experimental	Control	Experimental	Control	Experimental	Pretest	Posttest
Mean	17.4	19.47	1.93	12.6	13.47	15.13	12.6	14.47
SD	4.52	4.56	1.71	2	1.81	1.77	2.03	2.36
Mean Difference	-2.08		0.67		-1.67		-1.87	
Computed T-Value	1.2464		0.9733		2.5535		6.4236	
Two-tailed P value	0.2229		0.3388		0.0164		0.0001	
95 % confidence interval of difference	-5.46 to 1.33		-0.74 to 2.07		-3 to 0.33		-2.49 to -1.24	
Decision	Ho: Not Rejected		Ho: Not Rejected		Ho: Rejected		Ho: Rejected	
Significance	Not Significant		Not Significant		Significant		Very Significant	

The table shows the t-test results based on the data gathered. Based on the results, there is no significant difference in the weekly test mean scores between the two groups since the computed T-value of 1.2464 is less than the critical value of 1.33. However, the t-test result of the posttest mean scores of the two groups with the computed T-value of 2.5535 is greater than the critical value of 0.33, which shows that there is a significant difference between the mean test scores. In addition to this, the pretest and posttest mean scores of the experimental group with the computed T-value of 6.4236 is greater than the critical value of -1.24 which also shows that there is a strong significant difference between the mean test scores after exposing them to the use of Quizziz. Based on the results, it can be concluded that the use of Quizziz helped improve the academic performance of pupils in Mathematics class.

CONCLUSION

The use of an online educational application that make use of gamification promotes participation and engagement among pupils thereby improving their academic performance.

RECOMMENDATIONS

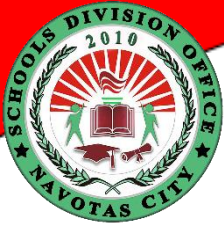
- Teachers need to be encouraged to make use of online educational applications in their teaching to enhance participation and engagement among pupils and improve their academic performance.
- The school should provide trainings for teachers in the use of variety of online educational applications that can be utilized in their teaching.
- If possible, the local government, in cooperation with the school, should provide gadgets and internet connection to the less privileged pupils so they can attend online synchronous classes for better understanding of the lessons and to uphold the objective that in education, no child should be left behind.

REFLECTION

In this world, change is permanent, technology is fast paced, and everything is uncertain. Considering these, we teachers should be resilient, innovative, and teachable so we can catch up and adapt to any situation. This will also enable us to withstand any challenges with regards to our profession. It may be exhausting at times, and we may be overwhelmed by countless tasks that are beyond our job description, but then again, we should keep in mind that everything is worth it if we are doing it for the sake of our learners.

REFERENCE:

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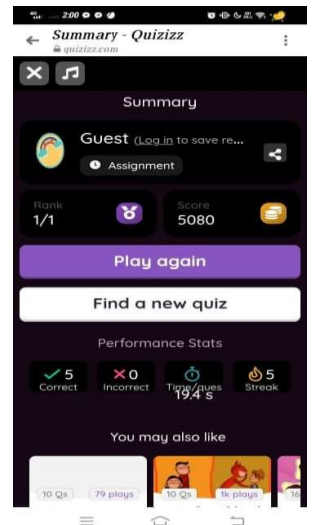
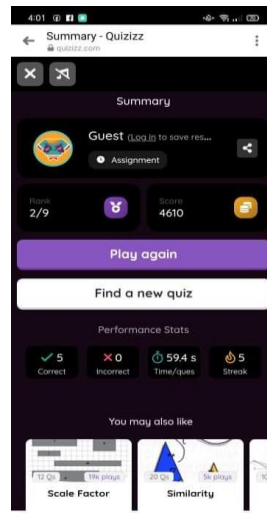
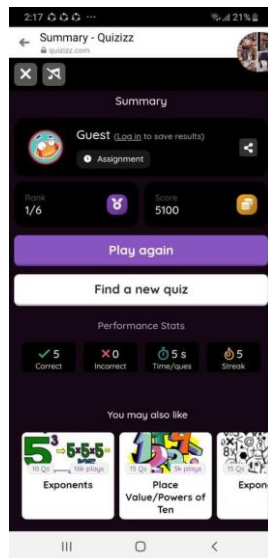
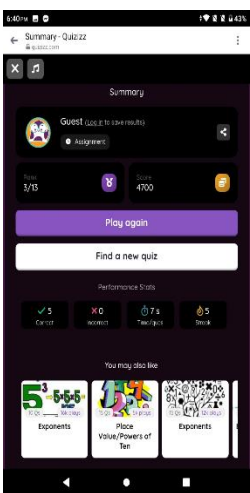
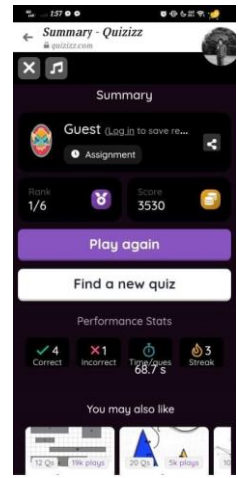
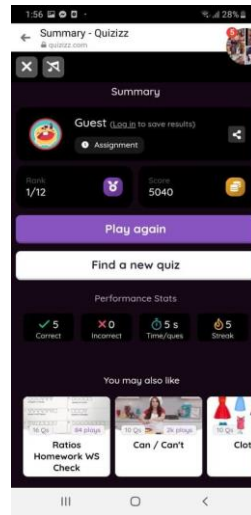
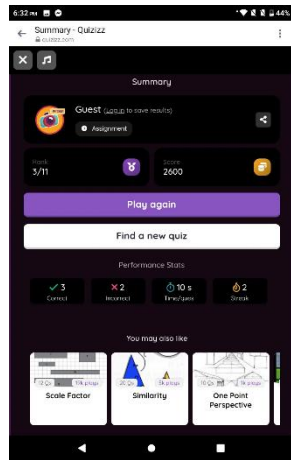
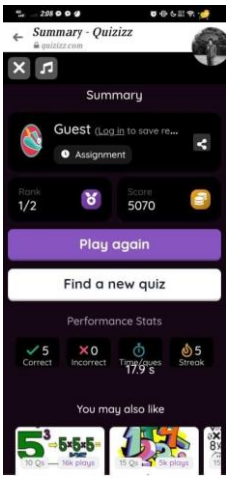
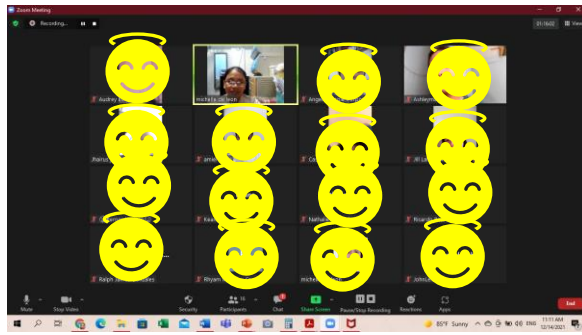
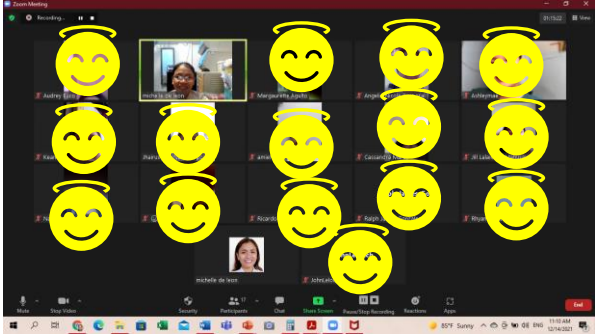


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